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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,076	11/18/2003	Brian S. Appel	12833-0111USU1	6999
21918	7590	01/21/2011		
DOWNS RACHILIN MARTIN PLLC			EXAMINER	
199 MAIN STREET			NGUYEN, TAM M	
P O BOX 190				
BURLINGTON, VT 05402-0190			ART UNIT	PAPER NUMBER
			1771	
NOTIFICATION DATE	DELIVERY MODE			
01/21/2011	ELECTRONIC			

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patip@drm.com

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/717,076	APPEL ET AL.
	<b>Examiner</b>	Art Unit 1771
	TAM M. NGUYEN	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 18 October 2010.
- 2a) This action is **FINAL**.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-19,21,26,30,40-42,75-82,84-105,108-119,121 and 123-126 is/are pending in the application.
  - 4a) Of the above claim(s) 127-140 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-19,21,26,30,40-42,75-82,84-105,108-119,121 and 123-126 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-592)	4) <input type="checkbox"/> Interview Summary (PTO-419)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date: _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>12/18/10</u>	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: _____

**DETAILED ACTION**

**Election/Restrictions**

Newly submitted claims directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The new independent claim does not include the previous selected specie and it also includes new issues such as "organic liquor", "liquid-liquid separation", and "steam and gas are liberated".

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 127-140 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

**Claim Objections**

Claims 124 and 125 are objected to because of the following informalities "(withdrawn and currently amended)". It is unclear if the claimed are still pending. Appropriate correction is required.

**Claim Rejections - 35 USC § 112**

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 75-82 and 87 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitations "reacted liquid product comprising floatable organic materials" and "liquid/liquid separation" are not described in the specification at the time the application was filed.

#### **Terminal Disclaimer**

The terminal disclaimer filed on 10/18/2010 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of 7302060 has been reviewed and is accepted. The terminal disclaimer has been recorded.

#### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-19, 21, 26, 30, 40-42, 75-82, 84-105, 108-119, 121, and 124-126 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lang (US 4,094,740).

Lang discloses a process for convert a solid municipal waste feedstock (e.g., animal waste) to a liquid fuel by preparing a slurry stream from the feedstock. The slurry stream is then passed to a reaction zone (e.g., hydrolysis) to provide a solid product, liquid product, and water containing solubles. The liquid product is further process to produce liquid fuel. Since the reaction zone is operated under hydrolysis, it would be expected that the pressure in the reaction zone is at least at the saturation pressure of water. It is noted that Lang does not specifically disclose that the product include oil. However, the product from the hydrolysis would include at least a small amount of oil. Fuel, solid product, and water are produced from the process. The liquid product is then passed to a distillation zone to separate water from liquid product. (See abstract; the Figure; col. 1, lines 30 through col. 3, line 56)

Lang does not disclose a step of pre-heating the feedstock at a pressure above the saturation pressure of water in the slurry.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Lang by heating the feedstock as claimed because it would be expected that heating the feedstock to the reaction conditions would improve the effectiveness of the process. Consequently, it would be effective to utilize a pressure above the saturation pressure of water because the reaction is under hydrolysis.

Lang does not specifically disclose that the animal waste comprises animal offal, turkey offal, or animal manure.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Lang by utilizing a waste comprising animal offal, turkey offal, or animal manure because Lang teaches that the waste comprises animal (meat and fat) and cabbage leaves. It would be expected that a waste comprising animal offal, turkey offal, or animal manure would successfully treated in the process of Lang because of the similarities between the feedstock.

Lang does not teach the operating temperatures (150° C - 400° C) and pressures as claimed.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Lang by utilizing an operating temperature and pressure because it is within the level of one of skill in the art to utilize any effective condition resulting in hydrolysis including the claimed conditions.

Lang does not specifically teach that the liquid product is converted to hydrocarbon oils.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Lang by converting at least a portion of the

liquid product to hydrocarbon oils as claimed because it is within the level of one of skill in the art to convert the liquid product to any desired product including hydrocarbon oil and fuel gas.

Since the modified process of Lang is essentially the same as the claimed process, it would be expected that liquid product would comprise floatable organic materials as claimed.

#### **Response to Arguments**

The argument that a person of ordinary skill in the art would immediately understand Lang to disclose a biologically base process for the production of alcohol, and thus would not turn to its teachings when considering a physical chemical process for production of oil is not persuasive. Lang discloses a process wherein animal wastes are hydrolyzed to produce water (25), solid product (27) and **useful material** as claimed. The claimed process does not include other steps.

The argument that the examiner makes the complete unsupported assertion that "the product from the hydrolysis would include at least a small amount of oil is not persuasive. The process of Lang is utilized animal wastes (which would comprise fat) as a feedstock which is then hydrolyzed as claimed. It would be expected that the product stream from the hydrolyzed process would comprises at least a small amount of oil as claimed because of the similarities between **claimed process** and the process of Lang.

The argument that the subsequent processing of the reaction products produced in the claimed hydrolysis is not taught by Lang is not persuasive. Lang teaches that the product from the hydrolysis is converted to a useful product as claimed (see the fermentation step). Also, the examiner has modified process of Lang by converting the liquid product to oil.

The argument that converting the product of hydrolysis in Lang to oil would destroy its effectiveness for the fermentation is not persuasive. One of ordinary skill in the art is "also a person of ordinary creativity, not an automaton." KSR, 550 U.S. at 421. Certainly, skill in the art is presumed and that one of ordinary skill in the art would have found it obvious to weigh the advantages and disadvantages of producing oil and alcohol. Indeed, Lang teaches a fermentation step, but it would have been obvious to one of skill in the art to convert at least a portion of the product from the hydrolysis step to oil fuel if oil fuel is the more desirable product. See also, *Ex parte Obiaya*, 227 USPQ58, 60 (BPAI 1985).

The argument that Lang does not disclose that at least the saturation pressure of water in the slurry is not persuasive. The examiner maintains that it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Lang by heating the feedstock as claimed because it would be expected that heating the feedstock to the reaction conditions would improve the effectiveness of the process. Consequently, it would be effective to utilize a pressure above the saturation pressure of water because the reaction is under hydrolysis. Also see the response under declaration.

The argument that the process of Lang does not compare with the present invention is not persuasive. Lang is applied to teach that the claimed process steps are encompassed by the process of Lang, not to compare with the present invention. Also see the first two paragraphs under this section.

The argument that there is no suggest that the useful materials produced liquid mixture of carbon-containing species, carbon solids, and fuel gas and oil in Lang is not persuasive. As discussed above, it is obvious to convert a least a portion of the product (liquid mixture of

carbon-containing species) from the hydrolysis to oil. Lang further teaches carbon solid (product nutrient) is produced from the process.

The argument that the Examiner makes no attempt to find the limitation of claim 5 is not persuasive. Lang employs flash evaporator-21. Since the process of Lang using the same feedstock, it would be expected that ammonia produced in the process would be removed in flash evaporator-22.

The argument Lang does not teach the limitations of claims 18 and 19 is not persuasive. As discussed above, a portion of the product is converted to oil and other portion is passed to unit 23.

The argument that Lang does not teach the limitations of claims 93-95 is not persuasive. As discussed above, Lang employs the same feedstock as claimed which is then hydrolyzed as claimed. It would be expected that the feedstock is decomposed and deaminating as claimed.

The argument for other claims, please see the rejection above.

#### **Declaration filed on 10/18/2010**

The argument that converting it to a hydrocarbon oil would destroy its effectiveness for fermentation and thus destroy the intended purpose of the process disclosed in Lang is not persuasive. As discussed above, one of ordinary skill in the art is "also a person of ordinary creativity, not an automaton." KSR, 550 U.S. at 421. Certainly, skill in the art is presumed and that one of ordinary skill in the art would have found it obvious to weigh the advantages and disadvantages of producing oil and alcohol. Indeed, Lang teaches a fermentation step, but it would have been obvious to one of skill in the art to convert at least a portion of the product from

the hydrolysis step to oil fuel if oil fuel is the more desirable product. See also, *Ex parte Obiaya*, 227 USPQ58, 60 (BPAI 1985).

The argument that there is unlimited combination of process conditions that may be employed to achieve what Lang achieves; therefore, there is no reason for person of ordinary skill to favor any one set of conditions over another absent a stated preference and given the lack of specific process parameter for hydrolysis in Lang, a person of ordinary skill in the art would be directed to low pressure and low temperature diluted acid hydrolysis for number of reasons is not persuasive. Since there is unlimited combination of process conditions that can employ in the process of Lang, one of skill in the art would employ any effective conditions including the claimed conditions. When high temperature is employed the saturated pressure is provided. One of ordinary skill in the art is "also a person of ordinary creativity, not an automaton." KSR, 550 U.S. at 421. Certainly, one of ordinary skill in the art would have found it obvious to weigh the advantages and disadvantages high and low temperature. The test for obviousness is what the teachings and disclosures of the prior art would have suggested to one of ordinary skill in the art, even including unpreferred embodiments. See *In re Lamberti*, 545 F.2d 747, 750, 192 USPQ 278, 280 (CCPA 1976).

The argument that Lang does not disclose anywhere oil is produced from the process is not persuasive. It is reminded that Lang use a feedstock (see selected specie) as claimed and since animal wastes always contain at least a small amount of fat. Whether or not the hydrolysis of Lang is operated at low or high temperature, it would be expected that the liquid product from the hydrolysis step would comprise at least a small amount of oil or fat. Furthermore, the examiner maintains that it would have been obvious to one having ordinary skill in the art at the

time the invention was made to have modified the process of Lang by converting at least a portion of the liquid product to hydrocarbon oils as claimed because it is within the level of one of skill in the art to convert the liquid product to any desired product including hydrocarbon oil and fuel gas.

For other arguments, please see the responses above.

### **Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAM M. NGUYEN whose telephone number is (571)272-1452. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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